Proposed Listing of Claims:

1-34. (Canceled).

35. (Previously presented) A device activated by biometric authentication, comprising:

a biometric sensor configured to measure a plurality of different specific, internal, physiological characteristics of a user, said biometric sensor comprising,

an energy emitter configured to emit an electromagnetic energy signal toward said user, wherein said electromagnetic energy signal is configured to penetrate said user to measure one or more of said specific, internal, sub-epidermal physiological characteristics of said user, and

an energy sensor configured to detect an electromagnetic energy signal returned from said user responsive to said emitted electromagnetic energy signal to thereby obtain a measurement of said one or more specific, internal, sub-epidermal physiological characteristics of said user; and

a memory module in communication with said biometric sensor comprising a biometric profile of an authorized user of said device,

wherein the device is configured to select a first one and a second one of said plurality of specific, internal, sub-epidermal physiological characteristics of said user, emit an electromagnetic energy signal from said electromagnetic energy emitter to measure said first specific, internal, sub-epidermal physiological characteristic, and said second specific, internal, sub-epidermal physiological characteristic, receive a returned energy signal comprising said measurements of said first and second specific, internal, sub-epidermal physiological characteristics of said user, determine a first biometric marker of said user using said measurement of said first specific, internal, sub-epidermal physiological characteristic, determine a second biometric marker of said user using said measurement of said second specific, internal sub-epidermal physiological characteristic, and generate an authentication signal if said first biometric marker and said second biometric marker match a biometric profile of an authorized user of said device.

36. (Previously presented) A device activated by biometric authentication, comprising:

a biometric sensor configured to measure a plurality of different specific, internal, physiological characteristics of a user, said biometric sensor comprising,

an energy emitter configured to emit an electromagnetic energy signal toward said user, wherein said electromagnetic energy signal is configured to penetrate said user to obtain measurements of one or more of said plurality of specific, internal, sub-epidermal physiological characteristics of said user, and

an energy sensor configured to detect an electromagnetic energy signal returned from said user responsive to said emitted electromagnetic energy signal to thereby obtain measurements of said one or more specific, internal, sub-epidermal physiological characteristics of said user; and

a memory module in communication with said biometric sensor comprising a biometric profile of an authorized user of said device,

wherein the device is configured to select a first one and a second one of said plurality of specific, internal, sub-epidermal physiological characteristics of said user,

emit a first electromagnetic energy signal from said electromagnetic energy emitter to measure said first specific, internal, sub-epidermal physiological characteristic, receive a first returned energy signal comprising said measurement of said first specific, internal, sub-epidermal physiological characteristic of said user using said energy sensor, emit a second electromagnetic energy signal from said electromagnetic energy emitter to measure said second specific, internal, sub-epidermal physiological characteristic, receive a second returned energy signal comprising said measurement of said second specific, internal, sub-epidermal physiological characteristic of said user using said energy sensor, determine a first biometric marker of said user using said measurement of said first specific, internal, sub-epidermal physiological characteristic and a second biometric marker of said user using said measurement of said second specific, internal, sub-epidermal physiological characteristic, generate an authentication signal if said first biometric marker and said second biometric marker match a biometric profile of an authorized user of said device.

37. (Currently amended) A device activated by biometric authentication, comprising:

a biometric sensor configured to measure a plurality of different specific, internal, sub-epidermal ~~structures and/or~~ physiological ~~processes~~ characteristics of a user, the biometric sensor comprising,

an energy emitter configured to emit an electromagnetic energy signal toward the user, and

an energy sensor configured to detect an electromagnetic energy signal responsive to the emitted electromagnetic energy signal to thereby obtain a measurement of a specific, internal, sub-epidermal ~~structure and/or process~~ physiological characteristic of the user; and

a memory module communicatively coupled to the biometric sensor, the memory module comprising a biometric profile of an authorized user of the device,

wherein the device is configured to acquire measurements of two or more of the plurality of different specific, internal, sub-epidermal ~~structures and/or~~ physiological ~~processes~~ characteristics of the user using the biometric sensor, to determine two or more biometric markers using the two or more measurements, and to generate an authentication signal when the two or more biometric markers match the biometric profile of the authorized user.

38. (Currently amended) The device of claim [[38]] 37, wherein the biometric sensor is configured to prevent identification by a user of the device of the plurality of the specific, internal, sub-epidermal ~~structures and/or~~ physiological ~~processes~~ characteristics measured by the biometric sensor.

39. (Previously presented) The device of claim 37, wherein a first one of the two or more biometric markers is substantially unique to the user.

40. (Previously presented) The device of claim 39, wherein a second one of the two or more biometric markers is substantially unique to the user.

41. (Previously presented) The device of claim 37, wherein the device is configured to determine whether the two or more measurements were obtained from a live human using the first one of the two or more biometric markers.

42. (Previously presented) The device of claim 41, wherein the device is configured to assert the authentication signal when the first biometric marker indicates that the two or more measurements were obtained from a live human.

43. (Previously presented) The device of claim 41, wherein the device is configured to prevent assertion of the authentication signal when the first biometric marker indicates that the two or more measurements were not obtained from a live human.

44. (Previously presented) The device of claim 37, wherein a first one of the two or more measurements comprises a heartbeat waveform.

45. (Previously presented) The device of claim 37, wherein a first one of the two or more measurements comprises a capillary pattern.

46. (Previously presented) The device of claim 37, wherein a first one of the two or more measurements comprises a blood oxygen level.

47. (Previously presented) The device of claim 37, wherein the energy emitter comprises a light emitting diode.

48. (Previously presented) The device of claim 37, wherein the energy emitter is configured to emit optical energy in the infra-red spectrum.

49. (Currently amended) The ~~method~~ device of claim [[51]] 37, wherein the energy emitter is configured to emit optical energy at one of a plurality of different wavelengths.

50. (Previously presented) The device of claim 37, wherein the device comprises a cell phone.

51. (Previously presented) The device of claim 37, wherein the device comprises a portable computing device.

52. (Previously presented) The device of claim 37, wherein the device comprises a communications device capable of communication with a communications network.

53. (Currently amended) The device of claim [[52]] 37, wherein activating the device comprises causing the device to transmit at least one of the two or more measurements and at least one of the two or more biometric markers on the communications network.

54. (Currently amended) A method for authenticating a user of a device comprising a biometric sensor, the method comprising:

acquiring two or more measurements of different specific internal, sub-epidermal ~~structures and/or~~ physiological ~~processes~~ characteristics of an individual using the biometric sensor, the biometric sensor comprising an optical energy emitter and an optical energy sensor, wherein acquiring a measurement comprises,

emitting an optical energy signal toward the individual using the optical energy emitter, and

sensing an optical energy signal responsive to the emitted optical energy signal using the optical energy sensor, and

determining a measurement of an internal, sub-epidermal ~~structure and/or process~~ physiological characteristic of the individual using the sensed optical energy signal;

deriving two or more biometric markers from the two or more measurements acquired using the biometric sensor;

comparing the two or more biometric markers to a biometric profile of an authorized user of the device; and

asserting an authentication signal when the two or more biometric markers match the biometric profile of the authorized user.

55. (Currently amended) The method of claim 54, wherein the biometric sensor is configured to prevent identification of the specific, internal, sub-epidermal ~~structures and/or~~ physiological ~~processes~~ characteristics measured by the biometric sensor.

56. (Previously presented) The method of claim 54, wherein a first one of the two or more biometric markers is substantially unique to the individual.

57. (Previously presented) The method of claim 56, wherein a second one of the two or more biometric markers is substantially unique to the individual.

58. (Previously presented) The method of claim 54, further comprising determining whether the two or more measurements were acquired from a live human using a first one of the two or more biometric markers.

59. (Previously presented) The method of claim 58, wherein the authentication signal is asserted when the first one of the two or more biometric markers determines that the two or more measurements were acquired from a live human.

60. (Previously presented) The method of claim 59, further comprising preventing assertion of the authentication signal when the first one of the two or more biometric markers determines that the two or more measurements were not acquired from a live human.

61. (Previously presented) The method of claim 54, wherein a first and a second one of the two or more measurements are obtained by emitting a single optical energy signal towards the individual using the optical energy emitter of the biometric sensor.

62. (Previously presented) The method of claim 54, wherein the optical energy emitter comprises a light emitting diode.

63. (Previously presented) The method of claim 54, wherein the optical energy emitter is configured to emit optical energy in the infra-red spectrum.

64. (Previously presented) The method of claim 54, wherein the optical energy emitter is configured to emit optical energy at one of a plurality of different wavelengths.

65. (Currently amended) The method of claim 54, wherein a first one of the two or more measurements comprises one of a ~~heartbeat waveform~~ cardiac rhythm, a capillary ~~pattern~~ density, a blood oxygen level, sub-dermal layer analysis, a diacrotic notch, and a hematocrit level.

66. (Previously presented) The method of claim 54, wherein the device comprises a communications device capable of communication on a network.

67. (Currently amended) The method of claim 66, wherein the device comprises one ~~selected~~ of a mobile phone, a portable computing device, and a personal digital assistant.

68. (Previously presented) The method of claim 67, further comprising activating the device responsive to deriving the two or more biometric markers, wherein activating the device comprises using the device to transmit one or more of the measurements and one or more of the biometric markers using the device.

69. (New) The device of claim 37, wherein a first one of the two or more measurements comprises one of a cardiac rhythm, a capillary density, a blood oxygen level, sub-dermal layer analysis, a diacrotic notch, and a hematocrit level.